

ACC NR: AP7000315

chamber and the reaction product, after the nozzle treatment, is channelled into a magnetohydrodynamic generator. [Translation] [KP]

SUB CODE: 07/SUBM DATE: 02Apr63/

Card 2/2

LEVIN, G. P.
LEVIN, G.P. RAFCY A.E.

25190

LEVIN, G.P. RAFCY A.E. Kudrvtseva po istorii anglia. Uchen.
Zapiski (Leningr. Gos. Fed. IN-T IM Gertsena), T. LXVIII, 1948
S. 7-11.

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

VLADIMIRSKIY, Boris Leonidovich; LEVIN, Georgiy Petrovich;
LOYEV, Yefim Grigoryevich; MARUSHCHAK, Vasilii Yefimovich;
ULASIK, Vasilii Lavrent'evich; MIKHAELIS, Ye.M., prof.;
BALYASHAYA, A.Ye., red.

[Practical laboratory work in general electrical engineering] Laboratornyi praktikum po obshchei elektrotehnike.
Kiev, Izd-vo Kievskogo univ., 1964. 184 p. (MISA 1012)

LEVIN, G.S.

Some metabolic processes in chronic diseases of the liver and
significance of blood plasma transfusions in compound treatment
of these diseases. Med. zhur. Uzb. no.3:23-29 Mr '60.
(MIHA 15:2)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta hematologii
i perelivaniya krovi (dir. - S.A. Agzamkhodzhayev).
(LIVER_DISEASES) (BLOOD_TRANSFUSION)

LEVIN, G.S.

Change in some kinds of metabolism in splenomegalic cirrhosis of the
liver. Med. zhur. Uzb. no. 6:46-50 Je '60. (MIR 15:2)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta hematologii
i perelivaniya krovi (direktor - S.A. Agzamkhodzhayev, nauchnyy
rukovoditel' - doktor med.nauk G.S. Suleymanova).
(METABOLISM, DISORDERS OF) (LIVER CIRRHOSIS)
(SPLEEN HYPERTROPHY AND DILATATION)

LEVIN, G. S.

"Toward the Problem of the Pathogenesis of Radiation Sickness," by S. D. Kalenova, A. Yu. Tiliis, Z. G. Teplyakova, V. I. Karginina, G. S. Levin, Uzbek Scientific Research Institute of Blood Transfusion (director, A. T. Astanov), Problemy Gematologii i Perelivaniya Krovi, Vol 2, No 2, Mar/Apr 57, pp 18-24

The purpose of the investigation was to study the significance of the toxemic factor in the development of radiation sickness. With this in mind, the effect of blood from irradiated animals on bone-marrow hemopoiesis in nonirradiated animals was studied.

Following the transfusion of blood from irradiated animals to non-irradiated animals, disturbance of hemopoiesis which resembled in a number of ways the disturbance in radiation sickness was observed. This indicates the presence of some kind of toxemic factor in the blood of irradiated animals which, when transfused, affects bone-marrow hemopoiesis in the same direction but to a lesser degree than in direct radiation sickness. (U)

Summ. 1360

LEVIN, G.S.

TILIS, A.Yu.; LEVIN, G.S.; KALUGINA, V.I.

Effect of intra-arterial blood transfusion on blood regeneration under experimental conditions [with summary in English, p.63]. Probl. gnomat. i perel. krovi 3 no.2:40-43 Mr-Ap '58. (MIRA 11:5)

1. Iz patofiziologicheskoy laboratori (zav.-dotsent A.Yu. Tilis) Uzbecksogo nauchno-issledovatel'skogo instituta perelivaniya krovi (dir.-A.T. Astanov).

(BLOOD CELLS,
eff. of intra-arterial blood transfusion on regen. in animals
(Rus)

(BLOOD TRANSFUSION, experimental,
intra-arterial, eff. on blood cell regen. (Rus)

LEVIN, G.S.

Protein metabolism in chronic intestinal diseases. Izv. AN
Uz.SSR.Ser.med. no.5:70-78 '59. (MIRA 13:3)

1. Uzbekskiy nauchno-issledovatel'skiy institut hematologii
i perelivaniya krovi.
(PROTEIN METABOLISM) (INTESTINES--DISEASES)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000929520012-1

LEVIN, G. S., Cand Med Sci -- (diss) "Changes in protein metabolism in chronic diseases of the intestines and the liver, and the significance of plasma transfusion in therapy of these diseases." Tashkent, 1960. 23 pp; (Ministry of Public Health Uzbek SSR, Tashkent State Medical Inst); 300 copies; price not given; (KL, 28-60, 165)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000929520012-1"

KHAWKIN, Yu.A.; LEVIN, G.S.

Investigation of pathological γ -globulin isolated from the blood
serum in a case of multiple myeloma. Vop.med.khim. 6 no.2:192-197
(MIRA 14:5)
Mr-Ap '60.

1. The Uzbek Research Institute for Hematology and Blood Transfusion,
Tashkent.
(TUMORS) (GAMMA GLOBULIN)

LEVIN, G.S.

Primary plastic surgery of the hand following almost complete avulsion.
(MIRA 14:5)
zdrav. Belor. 6 no.4:62-63 Ap '60.

1. Iz Orshanskoy bol'nitsy imeni Voroshilova.
(HAND--SURGERY)

LEVIN, G.S. (Tashkent)

Influence of plasma transfusion on the protein composition of the blood in chronic diseases of the intestines and liver. Pat. fiziol. i eksp. terap. 5 no.2:64-66 Mr-Ap '61. (MIRA 1/5)

1. Iz patofiziologicheskoy laboratorii (zav. - dotsent A.Yu.Tilis)
Uzbekskogo nauchno-issledovatel'skogo instituta hematologii i
perelivaniya krovi i kafedry patofiziologii (zav. - prof. M.N.Khanin)
Tashkentskogo meditsinskogo instituta.
(BLOOD—TRANSFUSION) (BLOOD PROTEINS)
(LIVER—DISEASES) (INTESTINES—DISEASES)

LEVIN, G.S.

Pseudosarcomatous traumatic myositis ossificans. Zdrav. Bel. 7
no. 10:68-69 O '61. (MIRA 14:11)

1. Iz khirurgicheskogo otdeleniya Orshanskoy bol'nitsy imeni
Voroshilova (glavnnyy vrach G.S.Levin).
(MUSCLES—DISEASES)

LEVIN, G.S.

Adhesive obstruction of the intestine after an appendectomy.
Zdrav.Bel. 8 no.5:51-52 My '62. (MIRA 15:10)

1. Iz khirurgicheskogo otdeleniya Orshanskoy bol'nitsy No.2.
(APPENDECTOMY) (INTESTINES--OBSTRUCTIONS)

LEVIN, G.S., kand.med.nauk; BURMISTROVA, G.N., vrach

Organization of surgical treatment of pulmonary tuberculosis.
Zdrav.Bel. 8 no.7:16-17 J1 '62. (MIRA 15:11)

1. Iz Belorusskogo nauchno-issledovatel'skogo instituta tuberkuleza
(direktor - kand.med.nauk M.N.Lomako) i Vitebskogo oblastnogo
protivotuberkuleznogo dispansera (glavnnyy vrach L.F.Dudareva).
(TUBERCULOSIS)

LEVIN, G.S. - TILIS, A.Yu.; TRET'YAKOVA, N., red.; AGZAMOV, K.,
tekhn. red.

[Blood and blood substitutes in the struggle for human
life] Krov' i krovvezameniteli v bor'be za zhizn' chelove-
ka. Tashkent, Medgiz UzSSR, 1962. 55 p.

(MIRA 16:11)

(BLOOD--TRANSFUSION)
(BLOOD PLASMA SUBSTITUTES)

TILIS, A.Yu.; LEVIN, G.S.; KAL'INGIN', V.I.

Regeneration of serum proteins following acute blood loss in different seasons. Vop. med. khim. 9 no.6:570-574 N-D '63.

(MIRA 17:10)

1. Kafedra patologicheskoy fiziologii Kirgizskogo meditsinskogo instituta, Frunze.

ATAKHANOV, E.I.; FEDOROV, V.V.; KHACHATYAN, A.M.; LEVIN, G.S.; TILIS, A.Yu.; BRODDE, V.B.

Comparative study of the protein and amino acid composition of pathological exudative fluids. Vop. med. khim. 10 no.2:134-140
Mr-Ap '64. (MIRA 18:1)

1. Kafedra prepedevtikli vnutrennikh bolezney sanitarno-gigiyenicheskogo i pediatricheskogo fakultetov Tashkentskogo gosudarstvennogo meditsinskogo instituta; Uzatskiy nauchno-issledovatel'skiy institut gematologii i perelivaniyu krovi i Tashkentskaya ob'yedinennaya bol'ница.

RASHEV, Sh.I.; LEVIN, G.S.

Changes occurring in some indices of fat metabolism during the development of experimental heliotrine-induced liver cirrhosis.
(MIRA 18:6)
Vop. pit. 23 no.6:67-72 N-D '64.

1. Kafedra patofiziologii (zav. - prof. M.N.Khanin) Tashkentskogo meditsinskogo instituta i patofiziologicheskaya laboratoriya (zav. - kand.med.nauk G.S.Levin) Uzbekskogo nauchno-issledovatel'skogo instituta hematologii i perelivaniya krovi.

LEVIN, G.S.

Prblems of the pathogenesis of ascites in cirrhosis of the liver.
(MIRA 18:5)
Sov. med. 28 no.5:93-98 My '65.

1. Patofiziologicheskaya laboratoriya (zav. - kand. med. nauk
G.I. Levin) Uzbekskogo nauchno-issledovatel'skogo instituta
genatologii i perelivaniya krovi (dir. - kand. med. nauk Kh.A.
Khakimov), Tashkent.

LEVIN, Gennadiy Solomonic'it; LEVINA, L.M., red.

[Protein metabolism and plasmotherapy in chronic diseases
of the intestines and liver] Belko-iyi obmen i plazmoterapia
pri khronicheskikh bolezniakh kis.technika i pecheni.
Tashkent, Meditsina, 1964. 143 p. (MIRA 18:8)

LEVIN, G. S.

6947. LEVIN, G. S. Operativnoye lecheniye bol'nykh tuberkulezom legkikh.
Minsk, Gosizdat BSSR, Red. nauch, tekhn. lit., 1954. 26 s. s ill. 20 sm
(Belorus, gos. nauch, -issled. tuberkuleznyy in-t). 5.000 ekz. Bespl.
-155.27967? 616.995-089

Knizhnaya Letopis' No. 6, 1955

LEVIN, Grigoriy Simonovich, kand.med.nauk; SAVON, A.A., red.;
NOVIKOVA, V., tekhn.red.; STEPANOVA, N., tekhn.red.

[Surgery for pulmonary tuberculosis; handbook for the
practicing physician] Operativnoe lechenie bol'nykh
tuberkulosom legikh; v pomoshch prakticheskому vrachu.
Minsk, Gos.isd-vo BSSR, Red.nauchno-tekhn.lit-ry, 1959.
235 p. (MIRA 12:10)

(TUBERCULOSIS) (LUNGS--SURGERY)

LEVIN, G.S.

Benign stomach tumors. Zdrav.Belor. 5 no.1:58-59 Ja '60.
(MIRA 13:5)
1. Iz khirurgicheskogo otdeleniya Orshanskoy gorodskoy bol'nitsy
imeni Voroshilova.
(STOMACH--TUMORS)

LEVIN, Grigoriy Simonovich, kand. med. nauk; CHERNYAK, I., red.;
YERMOLENKO, V., tekhn. red.

[Surgical treatment of pulmonary tuberculosis; an aid for
the practicing physician] Operativnoe lechenie bol'nykh tu-
berkulizom legkikh; v pomoshch' prakticheskому vrachu.
2. perer. i dop. izd. Minsk, Gos.izd-vo BSSR. Red. nauchno-
tekhn. lit-ry, 1962. 274 p. (MIRA 15:11)
(TUBERCULOSIS) (LUNGS—SURGERY)

LEVINSHTEYN, Israill' Ionasovich; LISITSKIY, Ruvim Markovich; LEVIN, G. Ya.,
redaktor; SACHEVA, A.I., tekhnicheskij redaktor

[Storing drugs; manual for pharmacies and pharmaceutical warehouses]
Khranenie medikamentov: posobie dlia aptek i aptechnykh skladov.
Izd. 2-e, perer. i dop. Moskva, Gos. izd-vo meditsinskoi lit-ry,
1954. 209 p.
(Drugs--Storage)

OGORODNIKOV, Pavel Vasil'yevich; PEROBRAZHENSKIY, Aleksandr Mikhaylovich;
LEVIN, G.Ya., redaktor; ZAKHAROVA, A.I., tekhnicheskiy redaktor

[Ready-prepared medicines; a manual for physicians and pharmacists]
Gotovye lekarstvennye sredstva; spravochnik dlja vrachai i aptechnykh
rabotnikov. Moskva, Gos. izd-vo med. lit-ry, 1956. 251 p. (MLRA 10:1)
(DRUGS)

LEVIN, G. YA.

USSR/Electronics
Magnetron

May/Jun 49

"Multiple Electron Resonance in Single-Contour,
Partially Slotted Magnetrons," G. Ya. Levin, Cand
Physicomath Sci, 11 pp

"Radiotekh" Vol IV, No 3

Studied resonance-type oscillations in subject
magnetrons. Discovered excitation of discrete
regions of oscillations caused by multiple electron
resonance. Formulated conditions for multiple
electron resonance. Calculated boundary operations
and used results to compile experimental data.
Submitted 24 Dec 48.

52/49731

LEVIN, G. YA.

"Investigation and Development of Electrostatic Generators." Sub 30 Nov 51,
Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

Dissertations presented for science and engineering degrees in
Moscow during 1951

SC: Sum. No. 420, 9 May 55

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L40920-65 EEC(b)-2/ENR(h)/EWT(1) P1-4/Pj-4/Pm-4/Pn-4/Pac-4/Peb JM
ACCESSION NR: AP6007301 S/0057/65/035/003/0519/0527

AUTHOR: Levin, G.Ya.; Verbitskiy, I.L.; Vigdorchik, V.I.; Maksimov, V.I.; Mil'cho, M.V.

TITLE: Influence of asymmetry of the interelectrode space on the static characteristics of a cylindrical magnetron

SOURCE: Zhurnal tehnicheskoy fiziki, v.35, no.3, 1965, 519-527

TOPIC TAGS: magnetron, axial symmetry, current distribution, cutoff field

ABSTRACT: The azimuthal distribution of anode current was measured in cylindrical magnetron diodes in which the cathode was displaced from its normal position (in which it is coaxial with the anode), and the results are compared with theoretical calculations. The measurements were undertaken to determine whether imperfect geometry can explain the rather large anode currents observed in magnetrons at magnetic fields greater than the cutoff value. The conclusion of O.Baneman (Sb.Elektronnyye svch pribory so skreshchennymi poliami, 1, 181, 1961) that geometric effects are not capable of explaining the observed currents would appear to be unfounded. Measurements were made with diodes having anode to cathode diameter ratios from 0.1 to

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ACCESSION NR: AP5007301

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0.5. The tubes were operated with low anode voltages to assure space charge limitation of the cathode current. Eight probe electrodes were embedded in the wall of the anode and the azimuthal distribution of the anode current was determined by measuring the currents to these probes. With zero magnetic field the anode current was maximum in the direction of smallest separation between the electrodes. As the magnetic field was increased the azimuth of maximum anode current shifted in the direction of electron rotation and the ratio of maximum to minimum anode current increased. This ratio became very large (substantially infinite, as well as one can tell from the published polar curves) for magnetic fields beyond the cutoff value. Azimuthal distributions of anode current were calculated with the "equivalent diode" model, in which the nonaxial diode is treated as a superposition of parts of axial diodes, each with its own appropriate interelectrode spacing. Satisfactory agreement was obtained between theory and experiment. The authors state no conclusions concerning the possibility of explaining the beyond cutoff current observed in practical magnetrons as a consequence of deviation from axial symmetry. Orig.art.has: 20 formulas and 10 figures.

Card 2/3

I. 40920-65
ACCESSION NR: AP5007301

ASSOCIATION: Institut radiofiziki i elektroniki AN SSSR, Khar'kov (Institute of Radiophysics and Electronics)

SUBMITTED: 18Jun84.

ENCL: 00

SUB CODE: EC,EM

NR REF Sov: 004

OTHER: 006

Card 3/3 Phys

ZUSMANOVICH, Mark Abramovich [Zusmanovych, M.A.]; LEVIN, Genrikh
Yefimovich [Levin, H.IH.]; SIZIN, Petr Romanovich [Syzin, P.R.];
KOVAL'CHUK, O., red.; GORKAVENKO, L. [Horkavenko, L.], tekhn.red.

[From the experience in the operation of the Mironovka State
Regional Electric Power Plant] Z dosvidu eksploatatsii Miro-
niv's'koi DRES. Kyiv, Derzh.vyd-vo tekhn.lit-ry URSR, 1960. 50 p.
(MIRA 13:12)

(Ukraine--Electric power plants)

VORONIN, N.I.; KRASOTKINA, N.I.; KULIK, A.I.; KARMANOVA, T.S.;
LEVIN, G.Ye.; SIZIN, P.R.

Refractory materials and ramming mixtures for high-pressure
steam-boiler furnaces. Ogneupory 28 no.5:212-218 '63.
(MIRA 16:6)

1. Vsesoyusnyy institut ogneuporov (for Voronin, Krasotkina).
2. Chasov-Yarskiy kombinat ogneupornykh izdeliy (for Kulik, Karmanova).
3. Mironovskaya gosudarstvennaya rayonnaya elektrostantsiya (for Levin, Sisin).

(Refractory materials)
{Boilers—Design and construction)

LEVIN, G.Z.

LEVIN, G.Z.

Embryonic development of the sulcus olfactorius in man and its cyto-
architectonic differentiation from the adjoining cortex. Trudy Gos.
Inst. vo izuch.mozga 16:52-85 '49. (KIR 10:9)
(BRAIN--LOCALIZATION OF FUNCTIONS)
(CEREBRAL CORTEX)

LEVIN, G. Z.

"Comparative Embryology of the Visual and Acoustic Centers of the Diencephalon and Mesencephalon of Reptiles and Mammals in Relation to the Evolution of the Analysers." Dr Med Sci, Leningrad Psychoneurology Inst, Leningrad, 1953.
(RZhBiol, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24, Jun 55

LEVIN, G.Z.

Some general features of the development of the diencephalon and the
mesencephalon. Arkh. anat. i embr. 32 no.4:63-70 O-D '55
(MLRA 9:5)

1. Leningradskiy psichoneurologicheskiy institut imeni. V.M.
Bektereva (dir. prof. V.N. Myasishchev)
(DIENCEPHALON, embryology.)
(MESENCEPHALON, embryology)

USSR/Human and animal Morphology (Normal and Pathological)
Nervous System - Central Nervous System

S-3

Abs Jour : Rof Zhur - Biol., No 12, 1958, No 55053

Author : Levin G.Z.

Inst : Not Given

Title : The Development of the Thalamus Opticus Pulvillus.

Orig Pub : V sb.: Probl. morfol. nervn. sistemy. L., Mdgiz, 1956,
55-71

Abstract : The study of early embryonic development stage in rhesus showed that the inner part of the postero-lateral nucleus of the thalamus opticus represents the basic source for the development of the pulvillus (P). P is not related to the pretectal nucleus. Neither may P be termed as being a part of the postero-lateral nucleus which lower mammals possess. The development of P begins on the oral levels of the postero-lateral nucleus, from where it spreads backwards and outwards. The development of P is related to the development of temporal and sinciput regions of the primates'

Cord : 1/2

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USSR/Human and Animal Morphology (Normal and Pathological)
Nervous System - Central Nervous System

S-3

Abs Jour : Rof Zhur - Biol., No 12, 1958, No 55053

cerebral cortex. In rats P continues to grow during their postembryonic stage of development, representing a late formation of onto- and phylogeny.

Cord : 2/2

LEVIN, G.Z. (Leningrad 1, ul. Yakubovicha, d.22, kv.2)

Ambryonic development of the corpus geniculatum externum in reptiles and mammals [with summary in English]. Arkh.anat.gist. i embr. 34 no.2:83-89 Mr-Ap '57. (MLR 10:10)

1. Psichoneurologicheskiy institut im. V.M.Bekhtereva (dir. - prof. V.I. Mysishchev).

(THALAMUS, embryol,

external geniculate body develop. in reptiles & mammals
(Rus))

(ANIMALS

external geniculate body develop. in mammals (Rus))
(REPTILES

external geniculate body develop. (Rus))

LEVIN, O.Z.

V.M.Bekhterev's neuromorphological research. Arkh.anat.gist. 1
embr. 34 no.3:98-109 My-Je '57. (MIRA 10-10)

1. Iz Psichoneurologicheskogo instituta imeni Bekhtereva, Leningrad
(NEUROPHYSIOLOGY
contribution of V.M.Bekhterev, biobibliog. (Rus))
(BIOGRAPHIES
Bekhterev, V.M., biobibliog. (Rus))

LEVIN, G.Z.
LEVIN, G.Z.

Perception by patients of a neurological clinic of loss of the visual field [with summary in French]. Zhur.nevr. i psikh. 57 no.9: 1130-1134 '57. (MIRA 10:11)

1. Nauchno-issledovatel'skiy psichoneurologicheskiy institut imeni V.M.Bektereva (dir. - prof. V.N.Myasishchev), Leningrad.
(VISION,
perception of loss of visual field on NS dis. (Rus))
(NERVOUS SYSTEM, diseases,
perception of loss of visual field in (Rus))

LEVIN, G.Z.

Encephalomalacia in elderly persons with hypertension without
atherosclerosis of the cerebral arteries. Sbor. trud. Len. nauchn.
ob-va nevr. i psikh. no.6:142-150 '59. (MIRA 13:12)

1. Is instituta imeni V.M. Bekhtereva (direktor chlen-korrespondent
Akademii pedagogicheskikh nauk RSFSR - prof. V.N. Myasishchev).
(BRAIN—SOFTENING) (HYPERTENSION)

BEL'MAN, Kh.L.; LEVIN, G.Z.; BELEN'KAYA, R.M.; SVETLICHNYY, V.A.; FRENKEL',
V.I.

Some current data on the diagnosis of various forms of cerebral
vascular diseases. Trudy Gos. nauch.-issl. psikhonevr. inst. no.20:
311-320 '59. (MIRA 14:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy psikhonevrologicheskiy
institut imeni V.M. Bekhtereva, Leningrad:
(BRAIN--DISEASES)

LEVIN, G.Z. (Leningrad-1, ul.Yakubovicha, d.22, kv.2)

Basic aspects of the evolution of the internal geniculate body.
Arkh.anat.gist.i embr. 37 no.8:23-32 Ag '59. (MIRA 12:11)

1. Psichoneurologicheskiy institut im. V.M.Bekhtereva (Leningrad).
(THALAMUS embryology)

LEVIN, G.Z.

Theory of angospasms and of cerebrovascular insufficiency in explaining the appearance of encephalomalacia. Zhur.nevr. i psich. 59 no.8:919-922 '59. (MIRA 12:12)

1. Psichoneurologicheskiy institut imeni V.N. Bekhtereva (dir. - prof. V.N. Myasishchev), Leningrad.
(BRAIN dis.)

LEVIN, O.Z.

"The universal law of encephalomalacia" and localization of malacia
in the cerebral hemispheres. Arkh. pat. 22 no. 12:19-23 '60.
(MIRA 14:1)

(ARTERIOSCLEROSIS) (HYPERTENSION)
(BRAIN—DISEASES)

LEVIN, G.Z. (Leningrad, ul. Yakubovicha, 22, kv. 2)

Principal types of cytoarchitectonic differentiation of brain formations in ontogenesis and their substitution during the evolution of terrestrial vertebrates. Arkh. anat. gist. i embr. 39 no.8:56-57 Ag '60. (MIRA 13:11)

1. Nevrologicheskoye otdeleniye (zav. - doktor med. nauk G.Z.Levin) Leningradskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta imeni V.M.Bekhtereva.
(BRAIN)

LEVIN, G.Z.

Main problems in the diagnosis and treatment of acute disorders of the cerebral circulation with early hospitalization. Trudy Gos. nauch.-issl. psichonevr. inst. no.24: 53-60 '61. (MIRA 15:5)

37-571

1. Nevrologicheskoye sosudistoye otdeleniye Gosudarstvennogo nauchno-issledovatel'skogo psichoneurologicheskogo instituta imeni Bekhtereva.
(CEREBROVASCULAR DISEASE)

LEVIN, G.Z. (Leningrad, TSentr, ul. Yakubovicha, 22, kv.2)

Evolution of the posterior colliculi ~~corpora~~ quadrigemina. Arkh.
anat. i embr. 41 no.7:21-27 Jl '61. (MLA 15:2)

1. Nevrologicheskoye otdeleniye (zav. - doktor med.nauk G.Z.Lenin)
Psikhoneurologicheskogo instituta imeni V.M. Bekhtereva, Leningrad.
(BRAIN)

LEVIN, G.Z.

Visual agnosia following air embolism in the vessels of the
brain. Vop. psikh. i nevr. no.9:74-81 '62.

(MIRA 17:1)

1. Nevrologicheskoye otdeleniye (zav. - doktor med. nauk
G.Z. Levin) Leningradskogo nauchno-issledovatel'skogo
psikhonevrologicheskogo instituta imeni V.M. Bekhtereva
(dir. - B.A. Lebedev).

LEVIN, G.Z.; SVETLICHNYY, V.A. (Leningrad)

Conservative therapy of acute disorders of cerebral circulation.
Klin.med. no.9:155-158 '62. (MIRA 15:12)

1. Is nevrologicheskogo sosudistogo otdeleniya (rukovoditel' - doktor med.nauk G.Z. Levin) Psikhoneurologicheskogo instituta imeni V.M. Bekhtereva (dir. - kand.med.nauk B.A. Lebedev).
(CEREBROVASCULAR DISEASE)

IONTOV, A.S.; KNORRE, A.G.; LEVIN, G.Z.; PILIAYEVA, V.I.

Lev Iakovlevich Pines and his contribution to neuromorphology.
Trudy Gos.nauch.-issl.psykhonevr.inst. 28:11-44 '62.

(PINES, LEV IAKOVLEVICH, 1895-1951) (NERVOUS SYSTEM) (MIRA 15:12)

LEVIN, G.Z.

Modi of phylogenic embryogenesis in the evolution of the brain.
Trudy Gos.nauch.-issl.psikhonevr.inst. 28:163-234 '62.
(MIRA 15:12)

(EMBRYOLOGY—MAMMALS) (BRAIN) (EVOLUTION)

LEVIN, G.Z. (Leningrad, tsentr. Ul.Yakubovicha, 22, kv.2)

Comparative importance of the modi of phyloembryogenesis in the evolution
of the brain. Arkh. anat. gist. i embr. 42 no.2:3-11 F '62.

(MIKA 15:2)

1. Nevrologicheskoye otdeleniye (zav. - doktor med.nauk G.Z.Levin)
Psikhoneurologicheskogo instituta imeni V.M.Bekhtereva, Leningrad.
(BRAIN)

BAZHENOVA, K.M., dots.; VOL'FOVSKAYA, R.N., dots.; GARVIN,
Leonid Iosifovich, dots.; KALASHNIKOV, B.P., prof.;
K'YANDSKIY, A.A., prof.; LEVIN, G.Z., prof.; LOPOTKO,
I.A., prof.; PARIYSKAYA, T.V., kand. med. nauk;
ROZHDESTVENSKIY, V.I., doktor med. nauk; ROMANOVSKAYA, V.K.;
TUR, A.F., prof.; KHVILIVITSKIY, T.Ya., prof.; KHROMOV, B.M.,
prof.; SHRAYBER, M.G., prof.; D'YACHENKO, P.K., red.

[Manual for the physician on emergency and first aid] Spravochnik vracha skoroi i neotlozhnoi pomoshchi. Izd.2., ispr.
i dop. Leningrad, Meditsina, 1965. 355 p. (MIRA 18:4)

LEVIN, G.Z.

Disorders of gnostic functions and their significance in topical diagnosis and the localization problem. Zhur. nevr. i psikh. 65 no.12:1781-1788 '65. (MIR: 19:1)

1. Psikhonevrologicheskiy institut im. Bekhtereva, Leningrad.
Submitted April 28, 1964.

YASIVFVICH, V., kand.arkhitekturny; PROTSENKO, O., arkitektor, prepodavatel';
PORSIN, Yu., kand.tekhn.nauk, dotsent; KAMYSHNYY, N., doktor tekhn.
nauk, prof.; LEVIN, I., kand.tekhn.nauk, dotsent; FRIDKIN, B., student;
SEKACHEV, Yu., student; MILEVSKIY, V., student; VMIRNOV, A., student;
KORNFYEVA, S., studentka; VYGODSKIY, B., student; MOSHKOV, V., student

What kind of program for the course in "Industrial Design?"
Opinion of teachers and students. Tekh.est. no. 5:20-21 My '65.
(MIRA 18:6)

1. Kafedra nàchertatel'noy geometrii i kafedra grafiki Lesotekhnicheskoy akademii imeni Kirova (for Porsin). 2. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana (for Kamyshnyy, Korneyeva, Vygodskiy, Moshkov). 3. Moskovskiy avtomekhanicheskiy institut (for Levin, Smirnov). 4. Lenigradskiy institut aviapriborostroyeniya (for Fridkin, Sekachev, Milevskiy).

LEVIN, I.

Work on currency circulation in the Uzbek S.S.R. Den. i kred. 10
no.8:61-66 Ag '61. (MIRA 14:9)

1. Nachal'nik otdela denezhnogo obrazcheniya Uzbekskoy respub-
likanskoy kontory Gosbanka.
(Uzbekistan--Banks and banking)

LEVIN, I.; MAKAROV, A.

"Fundamentals of accounting in commerce." Reviewed by I. Levin,
A. Makarov. Sov. torg. 35 no. 5: 51-52 My '62. (MIRA 15:5)
(Russia--Commerce) (Accounting)

Determination of sulfur in pyrites. J. A. LEVY AND G. V. RABOVSKII. *J. Chem. Ind.*, (Moscow) 8, 159-61 (1931).—The procedure is the same as that of the Lunge method until after the removal of Fe. The soln. is then稀释 to 200 cc. and 25 cc. taken for the titration. To accomplish this, 7 cc. of formalin (neutral to methyl red) is added and then 0.25 N NaOH until neutral to phenolphthalein. B. C. A.

A New Machine for Alternate Tension-Compression Fatigue Testing at High Temperatures. V. B. Zinov'ev and I. A. Levin (Zavod. Lab. (Works' Lab.), 1934, 8, 494).—[In Russian.] The construction and operation are described. —N. H. V.

Oven for testing corrected by gases from combustion of burning mixtures. V. B. ZINOV'EV and I. A. LEVIN (Zavod. Lab., 1934, 8, 495). R. T.

ALB-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE 08/23/2000

9
The corrosion of modern valve steels at high temperatures in gaseous mediums. V. S. /inventor and
Levin. *Petruš Metallurgist*, 16, No. 17, 73 (1931).
Chem. Zentr. 1937, I, 3209; cf. *C. A.* 30, 5014, 5025.
Studies of the resistance to heat and to corrosion by pure
gasoline vapor and by mixt. with ethyl gasoline are re-
ported on Cr-Ni-Co, Cr-Ni-Si, Cr-Ni-W-Si and Cr-Ni-
Mo-W steels. Structure and hardness were not essentially
changed by holding the metal at 750-820° for 300 hrs.
Intercryst. gaseous corrosion did not appear under these
conditions. The most satisfactory steels on the basis of
expts. reported were one contg. C 0.3-0.4, Si 2.3-2.9,
Mn 0.4-0.7, S 0.02, P 0.03, Cr 16-20 and Ni 23-7% and
another contg. C 0.25-0.35, Si 2.2-2.8, Mn 0.3-0.7, S 0.03,
P 0.03, Cr 13-15 and Ni 7-9%. Addn. of ethyl gasoline
to the mixt. of vapors increased the corrosion 2-3 times.
M. G. Moore

AB-1A METALLURGICAL LITERATURE CLASSIFICATION

Number of	181003	181004	181005	181006	181007	181008	181009	181010	181011	181012	181013	181014	181015	181016	181017	181018	181019	181020	181021	181022	181023	181024	181025	181026	181027	181028	181029	181030	181031	181032	181033	181034	181035	181036	181037	181038	181039	181040	181041	181042	181043	181044	181045	181046	181047	181048	181049	181050	181051	181052	181053	181054	181055	181056	181057	181058	181059	181060	181061	181062	181063	181064	181065	181066	181067	181068	181069	181070	181071	181072	181073	181074	181075	181076	181077	181078	181079	181080	181081	181082	181083	181084	181085	181086	181087	181088	181089	181090	181091	181092	181093	181094	181095	181096	181097	181098	181099	181100	181101	181102	181103	181104	181105	181106	181107	181108	181109	181110	181111	181112	181113	181114	181115	181116	181117	181118	181119	181120	181121	181122	181123	181124	181125	181126	181127	181128	181129	181130	181131	181132	181133	181134	181135	181136	181137	181138	181139	181140	181141	181142	181143	181144	181145	181146	181147	181148	181149	181150	181151	181152	181153	181154	181155	181156	181157	181158	181159	181160	181161	181162	181163	181164	181165	181166	181167	181168	181169	181170	181171	181172	181173	181174	181175	181176	181177	181178	181179	181180	181181	181182	181183	181184	181185	181186	181187	181188	181189	181190	181191	181192	181193	181194	181195	181196	181197	181198	181199	181200	181201	181202	181203	181204	181205	181206	181207	181208	181209	181210	181211	181212	181213	181214	181215	181216	181217	181218	181219	181220	181221	181222	181223	181224	181225	181226	181227	181228	181229	181230	181231	181232	181233	181234	181235	181236	181237	181238	181239	181240	181241	181242	181243	181244	181245	181246	181247	181248	181249	181250	181251	181252	181253	181254	181255	181256	181257	181258	181259	181260	181261	181262	181263	181264	181265	181266	181267	181268	181269	181270	181271	181272	181273	181274	181275	181276	181277	181278	181279	181280	181281	181282	181283	181284	181285	181286	181287	181288	181289	181290	181291	181292	181293	181294	181295	181296	181297	181298	181299	181300	181301	181302	181303	181304	181305	181306	181307	181308	181309	181310	181311	181312	181313	181314	181315	181316	181317	181318	181319	181320	181321	181322	181323	181324	181325	181326	181327	181328	181329	181330	181331	181332	181333	181334	181335	181336	181337	181338	181339	181340	181341	181342	181343	181344	181345	181346	181347	181348	181349	181350	181351	181352	181353	181354	181355	181356	181357	181358	181359	181360	181361	181362	181363	181364	181365	181366	181367	181368	181369	181370	181371	181372	181373	181374	181375	181376	181377	181378	181379	181380	181381	181382	181383	181384	181385	181386	181387	181388	181389	181390	181391	181392	181393	181394	181395	181396	181397	181398	181399	181400	181401	181402	181403	181404	181405	181406	181407	181408	181409	181410	181411	181412	181413	181414	181415	181416	181417	181418	181419	181420	181421	181422	181423	181424	181425	181426	181427	181428	181429	181430	181431	181432	181433	181434	181435	181436	181437	181438	181439	181440	181441	181442	181443	181444	181445	181446	181447	181448	181449	181450	181451	181452	181453	181454	181455	181456	181457	181458	181459	181460	181461	181462	181463	181464	181465	181466	181467	181468	181469	181470	181471	181472	181473	181474	181475	181476	181477	181478	181479	181480	181481	181482	181483	181484	181485	181486	181487	181488	181489	181490	181491	181492	181493	181494	181495	181496	181497	181498	181499	181500	181501	181502	181503	181504	181505	181506	181507	181508	181509	181510	181511	181512	181513	181514	181515	181516	181517	181518	181519	181520	181521	181522	181523	181524	181525	181526	181527	181528	181529	181530	181531	181532	181533	181534	181535	181536	181537	181538	181539	181540	181541	181542	181543	181544	181545	181546	181547	181548	181549	181550	181551	181552	181553	181554	181555	181556	181557	181558	181559	181560	181561	181562	181563	181564	181565	181566	181567	181568	181569	181570	181571	181572	181573	181574	181575	181576	181577	181578	181579	181580	181581	181582	181583	181584	181585	181586	181587	181588	181589	181590	181591	181592	181593	181594	181595	181596	181597	181598	181599	181600	181601	181602	181603	181604	181605	181606	181607	181608	181609	181610	181611	181612	181613	181614	181615	181616	181617	181618	181619	181620	181621	181622	181623	181624	181625	181626	181627	181628	181629	181630	181631	181632	181633	181634	181635	181636	181637	181638	181639	181640	181641	181642	181643	181644	181645	181646	181647	181648	181649	181650	181651	181652	181653	181654	181655	181656	181657	181658	181659	181660	181661	181662	181663	181664	181665	181666	181667	181668	181669	181670	181671	181672	181673	181674	181675	181676	181677	181678	181679	181680	181681	181682	181683	181684	181685	181686	181687	181688	181689	181690	181691	181692	181693	181694	181695	181696	181697	181698	181699	181700	181701	181702	181703	181704	181705	181706	181707	181708	181709	181710	181711	181712	181713	181714	181715	181716	181717	181718	181719	181720	181721	181722	181723	181724	181725	181726	181727	181728	181729	181730	181731	181732	181733	181734	181735	181736	181737	181738	181739	181740	181741	181742	181743	181744	181745	181746	181747	181748	181749	181750	181751	181752	181753	181754	181755	181756	181757	181758	181759	181760	181761	181762	181763	181764	181765	181766	181767	181768	181769	181770	181771	181772	181773	181774	181775	181776	181777	181778	181779	181780	181781	181782	181783	181784	181785	181786	181787	181788	181789	181790	181791	181792	181793	181794	181795	181796	181797	181798	181799	181800	181801	181802	181803	181804	181805	181806	181807	181808	181809	181810	181811	181812	181813	181814	181815	181816	181817	181818	181819	181820	181821	181822	181823	181824	181825	181826	181827	181828	181829	181830	181831	181832	181833	181834	181835	181836	181837	181838	181839	181840	181841	181842	181843	181844	181845	181846	181847	181848	181849	181850	181851	181852	181853	181854	181855	181856	181857	181858	181859	181860	181861	181862	181863	181864	181865	181866	181867	181868	181869	181870	181871	181872	181873	181874	181875	181876	181877	181878	181879	181880	181881	181882	181883	181884	181885	181886	181887	181888	181889	181890	181891	181892	181893	181894	181895	181896	181897	181898	181899	181900	181901	181902	181903	181904	181905	181906	181907	181908	181909	181910	181911	181912	181913	181914	181915	181916	181917	181918	181919	181920	181921	181922	181923	181924	181925	181926	181927	181928	181929	181930	181931	181932	181933	181934	181935	181936	181937	181938	181939	181940	181941	181942	181943	181944	181945	181946	181947	181948	181949	181950	181951	181952	181953	181954	181955	181956	181957	181958	181959	181960	181961	181962	181963	181964	181965	181966	181967	181968	181969	181970	181971	181972	181973	181974	181975	181976	181977	181978	181979	181980	181981	181982</

LEVIN, I.A. and NOVITSKAYA, M.A.

"On the Corrosion of Welded Zh-17 Steel", Proceedings of the Second Conference on Metals Corrosion, Vol. 1 (1940).

"Research in Corrosion of Metals (Issledovaniya Po Korroziyi Metallov)".
Published by - Inst. of Physical Chemistry, USSR Academy of Sciences. Moscow--1951.
Translation--ATIC-79062-D
F-TS-6030-A/V.

CA

Porosity of anti-corrosion greases J. A. Lewis, K. H. George & Burke, U.S. Pat. No. 3,162,221 (1960).
A method was developed for measuring the porosity of typical greases. The min. thickness of the film of grease free from pores was determined, from curves plotted for each grease separately that gave the relation between the no. of pores and the thickness of the film. The point of intersection of the curve with the axis gave the required min. thickness. Spherical surfaces were used, since they provide the most nearly uniform thickness of film. Metal balls were weighed before and after application of the grease and from the increase of wt. the av. thickness was calculated. The variation of the thickness of coating was determined by removing the grease from a known area of the sphere, and weighing. For layers taken from the middle portion of the ball's surface the thickness deviated very little from the av. value for the whole surface. For layers taken from the lower portion, the deviation was large (as much as 40% for some anti-corrosion greases). The strength of a current passing between the metal ball coated with grease and a stainless-steel electrode in 0.01 N NaCl soln. served as a measure of the porosity of the film. The ball, suspended from an insulated Cu stand, was only partially immersed, since on the upper portion of the ball, at the place of contact with the metal bath, the porosity of the film was abnormally high. The small size of the C1 bulb makes possible the detection of very small pores. The method was accurate only when the resistance of the pore-free film of grease was very high. The current increased with the length of time of electrolysis. However, the currents of 0.1-0.2 mA. the in-

crease was negligible during the first 8 min. The percentage porosity is 100 times the ratio of the current for the coated ball to the current for the uncoated ball. Grease greases are least porous, the main greases the most porous of all examined. The min. thicknesses for various films are (in μ) lanolin (naphtha solvent) 17, lanolin (in white spirit) 27, techn. petroleum 27, cannon grease 45. A special exp. was made to det. the influence of porosity on the degree of corrosion. Brass samples coated thinly with grease were suspended from glass stands in a desiccator containing 6% NH₃. In 10-15 min. the brass surface became darkened owing to high porosity of the grease film.

C. S. Shapiro

ASME METALLURGICAL INSTITUTE CLASSIFICATION

ASME CLASSIFICATION	SUSCEPTIBILITY TO CORROSION		
	1	2	3
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
32	0	0	0
33	0	0	0
34	0	0	0
35	0	0	0
36	0	0	0
37	0	0	0
38	0	0	0
39	0	0	0
40	0	0	0
41	0	0	0
42	0	0	0
43	0	0	0
44	0	0	0
45	0	0	0
46	0	0	0
47	0	0	0
48	0	0	0
49	0	0	0
50	0	0	0
51	0	0	0
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56	0	0	0
57	0	0	0
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69	0	0	0
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84	0	0	0
85	0	0	0
86	0	0	0
87	0	0	0
88	0	0	0
89	0	0	0
90	0	0	0
91	0	0	0
92	0	0	0
93	0	0	0
94	0	0	0
95	0	0	0
96	0	0	0
97	0	0	0
98	0	0	0
99	0	0	0
100	0	0	0

ca

The protective action of anticorrosion coatings. L. A. Igel'son
Leningrad. Sverdlovsk. Sovetskaia Rossiia, No. 2, 1940 (1941).
Chem. Ztbl., 1940, I, 1223-4; cf. C. A. 34, 4700. Porous
coatings have no protective value at the pores. It is
supposed that corroding underneath the chem. resistant
nonporous coating can take place only if an hydrinous phase
is formed beneath it. The formation of such a phase is
possible only under a variable temp., so that structures
should have a const. temp. and low humidity. The pro-
tectiveness of the coating is proportion to the square of its
thickness. The presence of so-called passivators in the
coatings improves their protectiveness. The character
of the aqueous emulsion formed by the coating and its
speed of formation have a strong influence on the protec-
tiveness of the coating. The chief coating factors which
det. the protectiveness are: porosity, resistance to diffu-
sion of aggressive agents, dependence of the solv. of water
in the coating on the temp., d., viscosity, character of the
emulsion formed by water and the coating, amt. of mois-
ture which can be emulsified by the coating, charge of the
aqueous layer and ability of the layer to passivate the
metal, emulsification velocity of water with the coating
and relationship between the surface tensions of metal
sq. phase and oily phase. Izv. Igel'son

CH

9

Corrosion of welded joints of steel J-17. I. A. Levin and
M. A. Novitskaya. *Tруды Академии Наук СССР*,
2, 201-7 (1943). — Welds of steel contg. C 0.10, Cr 16.35,
Si 0.34, Mn 0.31, P 0.19 and Ni 0.20% are not corrosion
resistant. This is due to formation of a reactive layer
along the grain boundaries at above 900°. In 60%
 HNO_3 whole grains fall out; if the steel is kept at 1100°
for a longer time (more than 1 hr.) the loss of wt. in 60%
 HNO_3 is less since the grains are larger. Annealing at
700-800° restores the corrosion-resistance. The resist-
ance of a steel contg. C 0.05, Mn 0.70, Si 0.43, Ni 1.02,
Cr 15.72 and Ti 0.35% is not impaired by welding.
B. C. P. A.

USSR/Electricity

Electrolysis

Electrodes - Polarized

Dec 1947

Multielectrode Partially Polarized Systems. Systems
of Electrodes Connected as a 'Star'. I. A. Levin,
Corr Mem, Acad Sci; G. V. Akimov, G. B. Kark, Lab of
Corrosion of Alloys, Inst Phys Chem, Acad Sci USSR,
pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVIII, No 7

From earlier work, it is possible to solve problems
referring to multielectrode systems, which are almost
completely polarized, in which ohmic resistance can be

60715

USSR/Electricity (Contd)

Dec 1947

disregarded, or where it is necessary to consider only
ohmic resistance and polarization can be disregarded.
The more general case, which demands calculation of
both the polarization and ohmic resistance, has not
been solved. Present work gives solution of problem
for a system of electrodes connected in a star form.

USSR/Electricity

Electrodes - Polarization

Polarization

Dec 48

"Polyelectrode Partially Overpolarized Systems: System With Three Electrodes in Series," I. A. Levin, G. B. Klark, G. V. Akimov, Cott Mem., Acad. Sci. USSR, Inst. of Physicochem, Acad. Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 4-1.399-402

Gives solution for simplest case (three-electrode) of a system of electrodes in series. Initial potential is greater on the first than on the second, and greater on the second than on the third. Knowing polarization on the second 45/4928

USSR/Electricity (Contd)

Dec 48

curves of all electrodes and ohmic resistance between electrodes, attempts to determine what polarity will be at second electrode, and current loads at which electrodes will operate. Submitted 6 Oct 48.

LEVIN, I. A.

45/4928

LEVIN, I.A., and GLITSBERG, G.A.

Microelectrochemical Method for Analysis of Intercrystalline Corrosion.

"Research in Corrosion of Metals (Issledovaniya Po Korroziyi Metallov)".
Published by Inst. of Physical Chemistry, USSR Academy of Sciences, Moscow-1951.
Translation--ATIC-72062-D
F-TS-6030-N/V.

LEVIN, I.A.

Intercrystalline Corrosion of Alloys Subjected to A in .

"Research in Corrosion of Metals (Issledovaniya Po Korroziyi Metallov)".
Published -- Inst. of Physical Chemistry, USSR Academy of Sciences-Moscow--1951.
Translation--ATIC-79062-D
F-TS-8030-A/V.

LEVIN, I.A. and GANTSHEH, C.A.

Effect of Heat Treatment on the Corrosion of High Chromium Steel with 27%
Chromium.

"Research in Corrosion of Metals (Issledovaniya Po Korroziyi Metalliv)".
Published by Inst. of Physical Chemistry, USSR Academy of Sciences, Moscow--1951.
Translation --ATIC-79062-D
F-TS-1030-A/V.

LEVIN, I.A.; GINTSBERG, S.A.

Computation method for obtaining the polarization characteristics
of the structural (phase) components of alloys. Trudy Inst. Fiz.
Khim., Akad. Nauk S.S.R. 3, Issledovaniya Korrozii Metal. No. 2,
69-73 '51. (MLRA 5:2)
(CA 47 no.17: 8621 '53)

GIINTSBERG, S.A.; LEVIN, I.A.; YAMSHCHIKOV, I.N.

Apparatus for the investigation of the electrochemical behavior of different metals in contact. Trudy Inst. Fiz. Khim., Akad. Nauk S.S.R. 3, Issledovaniya Korrozii Metal. No.2, 79-82 '51. (MLRA 4:10) (CA 47 no.16:7831 '53)

LEVIN, I. A. ; GINTSBEI, S. ...

Corrosion and Anticorrosives

Microelectrochemical method for studying structural corrosion. Truly Inst.fiz.techniki
AN SSSR, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

LEVIN, I. A.

USSR/Metals - Steel Corrosion

11 Apr 52

"On Chromium Impoverishment of Grain Boundaries as a Cause for Intercrystalline Corrosion of Stainless Steels," I. A. Levin

"Dok Ak Nauk SSSR" Vol LXXXIII, No 5, pp 701-704

Presents and discusses several data contradicting the most accepted theory of intercrystalline corrosion of stainless steels due to decrease of Cr concn at boundaries of steel grains. Expts were carried out with Fe - Cr alloys contg 0.04% C. Submitted by Acad A. N. Frumkin.

218751

KLINOV, I.Ya.; IZGARYSHEV, N.A., retsenzent; LEVIN, I.A., kandidat
tekhnicheskikh nauk, redaktor; MODEL', B.O., tekhnicheskiy re-
daktor; MATVYEVA, Ye.N., tekhnicheskiy redaktor.

[Corrosion in chemical equipment and anticorrosive materials]
Korrosiya khimicheskoi apparatury i korroziomnostoikie materialy.
2-e izd., perer. i dop. Moskva, Gos. nauchno-tekh. izd-vo mashino-
stroit. lit-ry, 1954. 407 p. [Microfilm] (MLRA 8:1)

1. Chlen-korrespondent Akademii nauk SSSR. (for Izgaryshev).
(Corrosion and anticorrosives)

LEVIN, I. A.

USSR/Solid State Physics - Phase Transformations in Solids, E-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34745

Author: Levin, I. A.

Institution: None

Title: On the Causes of Intercrystallite Corrosion of Stainless Steels

Original Periodical: Korroziya metallov i metody bor'by s ney, Moscow, Oborongiz,
1955, 123-152

Abstract: See Referat Zhur - Khim, 1956, 41939

1 OF 1

- 1 -

✓ Methods for the evaluation of the tendency of stainless
steels to undergo intercrysalline corrosion. A symposium.
Discussion of methods of determination of the tendency of
stainless steels to undergo intercrysalline corrosion. I. A.
Mg. Leningradskaya Lab. 21, 546-50(1956).—A review.
27 References. Foreign practice of control determinations
of the tendency of stainless steels to undergo intercrysalline
corrosion. A. V. Shreider, Ibid. 551-6.—A review.
Methods for the determination of the existence of inter-
crysalline corrosion in stainless-steel apparatus. I. L.
Rosenfeld, Z. A. Vrusevich, and M. V. Neimanov. 1957.
887-9.—A flat surface of the app. is ground with an emery
wheel and the grooves produced examd. under a magnifica-
tion of 75-150 times. Only longitudinal grooves are seen
in the absence of corrosion, but they are crisscrossed with
cracks when there is intercrys. corrosion. W.M.S.

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SLOMYANSKAYA, F.B., kandidat tekhnicheskikh nauk; DYATLOVA, V.N.; AFANAS'YEV, P.S.; YEGOROV, A.P.; VITKOVSKIY, M.N.; MISHIN, I.A.; MEDOVAR, B.I.; LANGER, H.A.; PAL'CHUK, N.Yu., kandidat tekhnicheskikh nauk; FRID, Ya.L.; LEVIN, I.A., kandidat tekhnicheskikh nauk.

Methods of testing stainless steels for susceptibility to intergranular corrosion. Zav.lab.21 no.11:1314-1340 '55. (MIRA 9:2)

1.Vsesoyuznyy nauchno-issledovatel'skiy i konstrukterskiy institut khimicheskogo mashinostroyeniya (for Slemanskaya, Dyatlova).2.Nachal'nik TSentral'ney zavedskoy laboratorii (for Afanas'yev).3.Nachal'nik laboratorii eksperimental'nego zaveda khimicheskogo mashinostroyeniya.4.Sumskey mashinostreitel'nyy zaved imeni M.V.Frunze (for Vitkovskiy, Mishin).5.Institut elektrosvarki imeni Ye.O.Patona, Akademii nauk SSSR (for Medovar, Langer).6.Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E.Baumana (for Pal'chuk).7.Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii zavoda "Serp i Molot" (for Frid).

(Steel, Stainless--Corrosion)

LEVIN, I. A.

123-1-830

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957,
Nr 1, p. 126 (USSR)

AUTHOR: Levin, I. A.

TITLE: Intercrystalline Corrosion of High-chromium Steels
(Mezhkristallitnaya korroziya vysokokhromistykh staley)

PERIODICAL: Trudy Komissii po bor'be s korroziyey metallov. AN SSSR,
1956, Nr 2, p. 34-58.

ABSTRACT: High-chromium steels, which can serve in various oxydizing mediums, are used in many lines of production. However, the considerable sensitivity of these steels towards intercrystalline corrosion (MK) in the area of welded seams prevents their much wider application. Investigations were conducted for clarification of the tendency in steels containing 10 to 30% Cr towards intercrystalline corrosion, depending on the chemical content of the steel, the size of its grain, the electrochemical causes, the secondary heating, the mechanical stresses and the composition of the solution. The study was carried out by method of measuring the electric

Card 1/3

123-1-830

Intercrystalline Corrosion of High-chromium Steels (Cont.)

resistances. Polarized diagrams were obtained by the micro-electro-chemical method. The dependence of the intercrystalline corrosion speed formation on the size of the grain was established. The influence of a chemical composition on the intercrystalline corrosion was found to be quite significant, i.e., even a small content of C (0.025%) leads to a noticeable increase in the intercrystalline corrosion. At a given condition of tests an intercrystalline corrosion was observed in steels with content of Cr higher than 13%, the fact which is attributed to the discontinuance of passivity in steel at the grains boundary with the increase of the Cr content. With this on the grain boundary, a carbide phase deposit is observed. The heating-up of chromium steels to high temperatures with the following relatively fast cooling makes them susceptible to intercrystalline corrosion, caused by the deposit of carbides occurring during the cooling process. A supplementary heating-up to 600-800° (after fast cooling from high temperatures) may fully liquidate the tendency of high chromium steels to

Card 2/3

Intercrystalline Corrosion of High-chromium Steels (Cont.)

123-1-830

intercrystalline corrosion. By a proper selection of heat-treatment procedure a chromium steel may be brought to a steady resistance to the intercrystalline corrosion. However, this technique is not always acceptable. Certain other recommendations for the improvement of chromium steels resistance against the intercrystalline corrosion are presented.

R.L.A.

Card 3/3

Levin, I. A.

NAME & RANK INFORMATION

Sov/153

Vorozhnyy Sovet nauchno-tekhnicheskikh obozreniy

(Interprettation and Review Committee of Soviet) Moscow, Nauksgiz, 1960.

350 P. 3,000 copies printed.

B.A. Ishurits, Candidate of Technical Sciences; Ed. of Publishing House

I.I. Kostylev, Doctor of Technical Sciences; Head of Publishing House

Institute of Metalworking and Inorganic Metallurgy (Ministry of Soviet Economy);

B.N. Kostylev, Doctor of Technical Sciences (Chairman); V.P. Kostylev, Candidate of Technical Sciences; V.M. Plotnikov,

Candidate of Technical Sciences; and A.V. Tsvetkov, Candidate of Technical Sciences.

REMARKS: Only publication of articles is intended for technical personnel concerned

with problems of corrosion or metals.

CONTENTS: The collection contains dimensions of interpenetrating structures of oxide, metal and alloy coatings and multilayered alloys. The tendency of shift of various composition and regions to certain under certain conditions is discussed and the nature of corrosion and erosion resistance is analyzed. In generalization on multilayered coats of the articles are distinguished by milligrade performance, the majority of which are service.

VI. INTERPRETTATION COMMITTEE OF SCIENTIFIC WORKS

Chernik, Dr. I. A. Candidate of Technical Sciences; S.I. Volkov, and Yu. B.

Nekrasov, Doctor. Effect of Slow Heating on the Stability of Oxide

Metal Coatings Interpenetrating Corrosion

Dmitriev, Prof. Candidate of Technical Sciences, and L.A. Zaytseva,

Senior Research Worker. Study of the Reducibility of the Cr(II), Cr(III),

Interpenetrating Corrosion

Kostylev, B.A., Doctor, and N.M. Petrenko, Candidate of

Technical Sciences. Interpenetrating Corrosion Concentrations of

Alloyed the Positive Pole of Electrode Joints of the Zinc Type

Bogdanov, Prof. I.S. Bogdanov, Candidate of Technical Sciences

Effect of the Electric Current

on the Zinc Type of the Positive Electrode During the Resistance

to Interpenetrating Corrosion

Bogdanov, Prof. I.S. Bogdanov, Candidate of Technical Sciences; I.P. Kostylev,

Doctor, and N.M. Petrenko, Candidate of Technical Sciences.

Effect of the Heat Treatment of Some Transition Metals on their

Resistance to Interpenetrating Corrosion

Tikhonov, Prof. I.S. Tikhonov, Candidate of Technical Sciences

Interpenetrating Corrosion Resistance Corrosion of

Bimetallic Lubricants

Bogdanov, Prof. I.S. Bogdanov, Candidate of Technical Sciences, and Yu.B. Plotnikov,

Doctor. Interpenetrating Corrosion and Corrosion Protection of Bimetallic

High-Alloyed Metallic Coats.

Kostylev, Prof. I.S. Bogdanov, Candidate of Technical Sciences-Mechanics-Dynamical Properties, Interpenetrating Corrosion

Kostylev, Prof. I.S. Bogdanov, Doctor of Chemical-Mechanical Properties, Interpenetrating Corrosion of Technical Sciences. Development of Two-Phase

Stainless Steel Coatings of Increasing Resistance Steel Resistance to

Interpenetrating Corrosion

Bogdanov, Prof. I.S. Bogdanov, Doctor of Technical Sciences. Work on the Problem of the

Corrosion of Stainless Steel Interpenetrating Corrosion

Vorozhnyy Sovet nauchno-tekhnicheskikh obozreniy (Ministry of Soviet Economy);

Vorozhnyy Sovet nauchno-tekhnicheskikh obozreniy (Ministry of Chemical-Mechanical Properties), Interpenetrating Corrosion of Chemical-Mechanical

Properties Series by Protecting the Internal Protection

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LEVIN, I.A.; AVDIEIEVA, A.V.; KOVALENKO, N.P.

Corrosion of arsenic-soda apparatus of desulfurating installations.
Khim.prom.no.4:237-239 Je '56. (MLRA 9:10)

1.Gosudarstvennyy nauchno-issledovatel'skiy institut promyshlennoy
i sanitarnoy ochistki gazov.
(Corrosion and anticorrosives) (Arsenic) (Sulfur)

S/135/60/000/001/003/005
A006/A001

AUTHORS: Levin, I. A., Candidate of Technical Sciences, Nikiforov, V. A.
Engineer

TITLE: Carburization of the Seam Metal When Welding 1X18H9T (1Kh18N9T)
Steel

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 1, pp. 16-19

TEXT: Breakdown of 1Kh18N9T steel welds, due to crystalline corrosion, was observed in the production of synthetic fatty acids at petroleum processing plants. The authors studied the possibility of increasing the corrosion resistance of welds by reducing the carbon content in the electrode wire and the base metal. Experiments were made with 10 - 12 mm thick 1Kh18N9T sheet steel containing 0.065 - 0.09 % C; using C₃-OX18H9 (Sv-OKh18N9) (0.025 - 0.06% C) and 3H606 (EI606) (0.035 - 0.07% C) welding wires. 3HTY-3 (ENTU-3) electrode coating was used in manual welding and AH-26 (AN-26) flux in automatic welding. The corrosion resistance of weld joints was determined for built-up metal on copper and for welds with different combinations of the base metal and the welding wire. Corrosion tests were made with 60x15x8 mm specimens and 40x10x4mm three-layer

Card 1/2

S/135/60/000/001/003/005
A006/A001

Carburization of the Seam Metal When Welding 1X18H9T (1Kh18N9T) Steel

surfaced specimens which were held for 48 hours in a boiling solution containing 160 g CuSO₄·5H₂O, 100 ml H₂SO₄ and copper chips. Proneness to crystalline corrosion was estimated by the presence of corrosion cracks when bending the specimens through 90°. Six tables are given showing: the chemical composition of the steel, the welding wire, the built-up and the seam metal; comparison of the C content in the seam metal determined by calculations and chemical analysis; the C content in the built-up metal and the seam, depending on the welding method; the chemical composition of the ENIU-3 coating, and results of determining the proneness to corrosion of the weld joints. It was established that in manual and automatic electric arc welding of 1Kh18N9T steel with Sv-OKh18N9 or EI606 wires, carburization of the seams takes place, independent of the carbon content in the wire, causing their reduced resistance to crystalline corrosion. The marble, included in the electrode coating, is the main cause of carburization in manual welding; in automatic welding it is the flux. The existing compositions of coatings and fluxes used for welding stainless steels are hardly able to ensure the production of seams with a low C content. There are 6 tables and 4 Soviet references.

ASSOCIATION: GIPRONEFTEMASH

Card 2/2

LEVIN, I.A.; KOVALENKO, N.P.

Corrosion of equipment used in the arsenic-soda process of sulfur removal. Khim.prom. no.1:74-76 Ja-^P '60. (MIRA 13:?)

(Gas purification)

(Hydrogen sulfide)

(Corrosion and ant corrosives)

S/135/61/000/001/004/018
A006/A001

AUTHORS: Levin, I.A., Candidate of Technical Sciences, Nikiforov, V.A.
Engineer

TITLE: The Effect of Carbon on Intercrystalline Corrosion of Weld Metal of
1X18H9T (1Kh18N9T) Steel

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 14 - 18

TEXT: The authors studied the effect of carburizing weld joints on their proneness to intercrystalline corrosion and determined the limit content of carbon in the wire metal, built-up metal and weld joints, assuring a sufficient resistance of 1Kh18N9T steel to intercrystalline corrosion. The investigation was made on 6, 10 and 12 mm thick 1Kh18N9T sheet steel; 3 - 4 mm diameter wire of G-0 X18H9T (Sv-OKh18N9), 3U606 (EI606) and 3U649 (EI649) grade was used (Table 1). The specimens were manually butt-welded, connected by argon-arc welding with one-side seams, and automatically welded by two-sided seams without final shaping. Some specimens were welded by cross seams and some were built-up by applying the electrode metal onto a copper plate. Corrosion tests were made with 70 mm long wire specimens, weld joints and built-up metal subjected to heating in molten salts and

Card 1/44

9/135/61/000/001/004/018
A006/A001

The Effect of Carbon on Intercrystalline Corrosion of Weld Metal of 1X18H9T
(1Kh18N9T) Steel

boiling in a solution containing 160 g CuSO₄ · 5H₂O and 110 g H₂SO₄ per 1 liter of water in the presence of copper chips. Proneness to intercrystalline corrosion was tested by static bending of the specimens through 90°. The results of the tests were used to plot C-shaped curves showing the dependence of minimum holding time in zones of critical temperature causing intercrystalline corrosion of the specimens investigated. The results obtained are given in Table 2. (Figures 1, 2, 3, 4, 7). The tests show that carburization of the weld joint when welding 1Kh18N9T steel with Sv-OKh18N9 and EI 606 wire, causes a considerable increase in the proneness of the seam metal to crystalline corrosion in the condition after welding, particularly in the case of cross seams. In argon arc welding of steel with a lower carbon content, with a low carbon wire, a carbon content of not over 0.05% in the seam can be assured. These seams are sufficiently resistant to intercrystalline corrosion in operation at temperatures below the critical range even if stabilizing elements in the wire are absent. The corrosion strength of joints produced with EI649 wire is higher than that of welds made with EI606 and Sv-OKh18N9 wire. Stabilizing annealing improves corrosion resistance of weld joints. It has a particularly marked effect in the case of seams produced by automatic welding due ✓

Card 2/4

S/135/61/000/001/004/018
A006/A001

The Effect of Carbon on Intercrystalline Corrosion of Weld Metal of 1X18H9T
(1Kh18N9T) Steel

to the high titanium content of these welds. In cast structures the proneness to corrosion is higher than in hardened rolled metal.

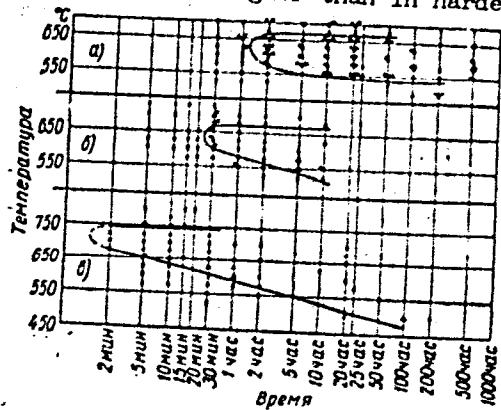


Figure 1:

The effect of temperature and time on the formation of proneness to intercrystalline corrosion: a) of hardened Sv-OKh18N9 wire (0.025 - 0.03% C); b) of argon-arc built-up metal (0.04% C); c) of metal built-up with EMTU-3 electrodes (0.08% C)

- X - not sensitive to crystalline corrosion
- - strongly sensitive
- △ - slightly sensitive
- - very slightly sensitive

Card 3/11

18.8300

27565
S/184/61/000/005/005/009
D041/D113

AUTHORS: Levin, I.A., Candidate of Technical Sciences; Maksimova, G.F.,
Engineer

TITLE: The effect of cold deformation on the tendency of 18-8 stain-
less steel to intercrystalline corrosion

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 5, 1961, 35-37

TEXT: A study was conducted to determine the minimum subjection time at temperatures of the dangerous zone which causes deformed and non-deformed steel to tend to intercrystalline corrosion. Three specimens of 0X18H9 (OKh18N9) steel and one of 1X18H9T (1Kh18N9T) steel with a low proportion of titanium content in relation to carbon content, were tested. All specimens were treated at 1050°C for 20 minutes, and then tempered. They were deformed on a tensile-testing machine. The article contains only the experimental results of 10 and 30% deformations. The resistance to intercrystalline corrosion was tested by putting the specimens into a boiling standard solution con-

X

Card 1/2

27565
S/184/61/000/005/005/009
D041/D113

The effect of cold deformation on ...

taining 160 g of CuSO₄ · 5 H₂O + 100 g of H₂SO₄ per liter of solution and copper shavings. The following conclusions were drawn: (1) The deformation of 0Kh18N9 steel accelerates its tendency to intercrystalline corrosion. (2) The deformation of 1Kh18N9T steel slightly slows down this tendency. (3) The deformation of 1Kh18N9T steel containing 0.09% C and 0.56% Ti has no great effect on this tendency. It is pointed out that cold deformation undoubtedly produces a tendency to intercrystalline corrosion of 18-8 steel without stabilizing carbide-producing agents. An increased tempering temperature decreases the deformation effect. The most important conclusion is that deformation does not speed up the tendency of 1Kh18N9T steel to intercrystalline corrosion. The mechanism of the effect of titanium on the deformation effect and the mechanism of the increased tendency of 18-8 steels to intercrystalline corrosion due to cold deformation are, at present, still unexplained. There are 2 figures, 3 tables, and 9 references: 7 Soviet-bloc and 2 non-Soviet bloc references. The references to the English-language publications read as follows: E.C. Bain, R.H. Aborn, J.J. Rutherford, Trans. Amer. Soc. for Steel Treating, v. 21, 1953; H.H. Grimes, Acta metallurgica, v. 7, no 12, 1959.

X

Card 2/2

BAYMAKOV, Yuriy Vladimirovich; ZHURIN, Aleksandr Ivanovich; LEVIN, A.I.,
prof., doktor tekhn. nauk, retsenzent; SMIRNOV, V.I., prof.,
retsenzent; STENDER, V.V., prof., retsenzent; COREUNOVA, K.M.,
prof., doktor khim. nauk, red.; PAKHOMOVA, G.N., kand. tekhn.
nauk, red.; MARENKOVA, Ye.A., red.; MISHARINA, K.D., red.izd-va;
MIKHAYLOVA, V.V., tekhn. red.

[Electrolysis in hydrometallurgy] Elektroliz v gidrometallurgii.
Moskva, Metallurgizdat, 1963. 616 p. (MIRA 16:2)

1. Kafedra tekhnologii elektrokhimicheskikh proizvodstv Ural'skogo
politekhnicheskogo instituta (for Levin).
2. Kafedra metallurgii
stsvetnykh metallov Ural'skogo politekhnicheskogo instituta, Dey-
stvitel'nyy chlen Akademii nauk Kazakhskoy SSR (for Smirnov).
3. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for Stender).
(Hydrometallurgy) (Electrometallurgy)

S/064/63/000/001/005/007
B101/B186

AUTHORS: Levin, I. A., Solomon, E. M.

TITLE: Effect of some organic substances on the corrosion rate of metals in sulfuric acid.

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1963, 69 - 70

TEXT: The effect of m-xylene, alkyl benzene sulfonic acid (obtained by sulfonating a 260 - 320° fraction of alkyl benzene with oleum), n-butanol, and cyclohexanone on the corrosion of 0X23H28M3A3T (OKh23N28M3D3T) and 1X18H19T (1Kh18N19T) steel, lead, ferrosilicon, and copper in 20 and 60 % H₂SO₄ at 20 - 100°C was studied in view of the requirements of petrochemical industry. m-xylene did not affect the corrosion rate of the two types of steel, whereas the other three organic substances accelerated the corrosion. This is probably due to the fact that the passivation of steel requires a certain amount of oxygen in the solution, which is reduced by oxidation of organic substances. An addition of n-butanol causes OKh23N28M3D3T steel in 60 % H₂SO₄ to depassivate at 100°C, and 1Kh18N19T steel at 20°C. An addition of 7 % alkyl benzole

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B101/B186

Effect of some organic ...

sulfonic acid shifted the polarization curve of OKh23N28M3D3T steel in 20 % H₂SO₄ towards more negative values by ~550 mv. The stability of lead and ferrosilicon is due to protective PbSO₄ or SiO₂ layers which remain unchanged by the organic substances studied. In copper, the organic substance increases the corrosion stability owing to a reduction in the concentration of oxygen which acts as a depolarizer. The polarization curve of Cu at 70°C in 20 % H₂SO₄ showed alkyl benzol sulfonic acid to inhibit the cathodic process. There are 2 figures and 2 tables.

ASSOCIATION: Ciproneftemash

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D'YAKOV, V.G.; LEVIN, I.A.; SHREYDER, A.V.

Aluminum, titanium, and OKH21N5T and KH21N6M2T low-nickel
steels as materials for the equipment of petroleum refineries
and petrochemical plants. Mash. i neft. obor. no.4:27-33 '63.
(MIRA 17:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut neftyanogo mashinostroyeniya.

L 18413-63
ACCESSION NR: AP3006038

EWP(q)/EWT(m)/BDS AFFTC/ASD JD/HW

S/0064/63/000/006/0019/0024

62

61

AUTHORS: Levin, I. A. (Cand. of Tech. Sc.); Kil'chevskaya, T. Ye.

TITLE: Corrosion of metals in fatty acids.

SOURCE: Khimicheskaya promyshlennost', no. 6, 1963, 19-24

TOPIC TAGS: metals, fatty acids, corrosion, corrosion metal, formic acid, acetic acid, propanoic acid, caproic acid, caprylic acid, stearic acid, austenite steel, austenite-ferrite steel

ABSTRACT: Authors determined the maximum temperatures which are suitable to use for a number of metals, including steel substitutes with a reduced nickel content, in fatty acids. They established that austenite-ferrite steels of OKh21N6M2T and OKh21NST brands, by their corrosion resistance in fatty acids, can successfully replace Kh18N12M2T and Kh18N9T steels. The presence of molybdenum in acid-resistant steels of the austenite and austenite-ferrite steels greatly increases their corrosion resistance in fatty acids. Articles made out of acid-resistant steels which come in contact with fatty acids

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ACCESSION NR: AP3006038

acids should be resistant against intercrystalline corrosion.
Orig. art. has: 10 tables.

ASSOCIATION: Giproneftemash

SUBMITTED: 00 DATE ACQ: 11Sep63 ENCL: 00

SUB CODE: CH, ML NO REF SOV: 000 OTHER: 000

Card 2/2

S/032/63/029/002/012/028
B101/B186

AUTHORS: Levin, I. A., and Volikova, I. G.

TITLE: Main principles of choosing solutions for the rapid test for susceptibility to intercrystallite corrosion

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 180-184

TEXT: The theory describing electrochemical corrosion is taken as a basis for discussing general principles applicable to the choice of solutions for the rapid testing of intercrystallite corrosion. The anodic curve (1) (Fig. 1) for the grains, which corresponds to the anodic polarization of a steel not susceptible to intercrystallite corrosion, is compared with the curve (2) for the grain boundaries. Between the potentials E_4 and E_6 , the grains are in a passive and the boundaries in an active state. After discussing the effect of a depolarizer the following principles are formulated: (a) Composition, concentration, and temperature of the solution must guarantee a potential range in which the grains are in a passive, the boundaries in an active state; (b) the diffusion limiting current of the reduction of the cathodic depolarizer must not be less than the critical Card 1/3

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Main principles of choosing ...

current of passivation for a steel susceptible to intercrystallite corrosion. The cathodic curve should cut the anodic curve in the potential range mentioned. These principles were checked on 1X18/9 (1Kh18N9) austenitic steel by corrosion with 15% H_2SO_4 in the presence of

$Fe_2(SO_4)_3 \cdot 9H_2O$ as cathodic depolarizer. Results: Between -0.2 and +0.89 v, the current density for tempered steel was always higher than for hardened steel, with a maximum between -0.1 and +0.1 v. Hardened steel dissolved uniformly over the whole potential range. The passivation of active steel was reached with 23 g/liter iron sulfate for hardened steel, and with 62 g/liter iron sulfate for tempered steel. Direct tests for corrosion in the presence of 8, 23, 35, and 62 g/liter iron sulfate showed weight losses of 340, 363, 388, and $1.10 \cdot g/m^2 \cdot hr$ for tempered steel, and of 1.70, 2.42, 0.32, and 0.29 for hardened steel. With 8 g/liter iron sulfate, mainly the boundaries dissolved. To accelerate this process the anodic and cathodic curves must intersect between -0.1 and +0.1 v. This can be achieved by adding copper sulfate or copper chips. There are 3 figures.

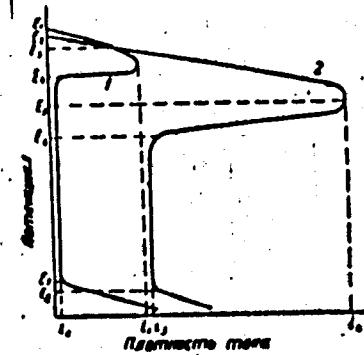
Card 2/3

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Main principles of choosing ...

ASSOCIATION: Nauchno-issledovatel'skiy institut khimicheskogo
mashinostroyeniya (Scientific Research Institute of Chemical
Machinery)

Fig. 1. Anodic curves for grains and grain boundaries.
Legend: abscissa - current density; ordinate - potential.



Card 3/3

LEVIN, I.A.; MAKSIMOVA, G.F.

On the development of the tendency towards intercrystalline
corrosion in nonstabilized stainless steels. Zhur. prikl.
khim. 36 no.10:2163-2167 O '63. (MIRA 17:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut neftyanogo mashinostroyeniya.